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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/826,531

Applicant(s)

CHEUNG ET AL.

Examiner

Kile O. Blair

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-25 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-850)
Paper No(s)/Mail Date 01/17/2008
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Inventor's Patent Application
6) ☐ Other: _____

DETAILED ACTION

This Office action is in response to the communication filed on 1/3/2008.

Amended claims 1, 13, 14, 16, 17, 21, 22 and previously presented claims 2-12, 15, 18-20, and 23-25 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. (US Pat. No. 6,279,946 B1).

Regarding claim 1, Johnson et al. teaches a personal wireless communication device (cellular phone, col. 29, line 19, where the cellular phone is understood to include the handset and any hypersonic speakers {col. 29, lines 33-35} or directional microphones {col. 29, lines 22-24} used with the handset for the purpose of facilitating a telephone conversation), comprising: a microphone for sound pickup (directional microphone; col. 29, lines 22-24); a directional speaker for sound output (directional speakers; col. 29, line 33-35); and a communication module operatively connected to said microphone and said directional speaker (antenna and wireless transmission components, which are inherently a part of the cellular phone handset, as used with hypersonic or directional speakers as a part of the hypersonic sound system, col. 29, lines 19-35), said communication module supporting two-way communications over a

wireless channel between said personal wireless communication device and another communication device (the antenna and wireless transmission components of the cellular phone are inherently capable of supporting two-way communications).

Regarding claim 6, Johnson et al. teaches a personal wireless communication device as recited in claim 1, wherein said personal wireless communication device is a personal digital assistant, a personal computer or a mobile telephone (cellular phone which is a mobile telephone, col. 29, line 19-22).

Regarding claim 7, Johnson et al. teaches a personal wireless communication device as recited in claim 1, wherein the sound output is steerable (directional speakers which Johnson et al. discloses can be aimed just like the directional microphone as an improvement to the performance of the telephone system, col. 29, lines 26-35).

Regarding claim 8, Johnson et al. teaches a personal wireless communication device as recited in claim 1, wherein said directional speaker is an ultrasonic speaker (a hypersonic sound system for directing sound to a user, col. 29, lines 26-35).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al.

Regarding claim 2, Johnson et al. teaches a personal wireless communication device as recited in claim 1. Although Johnson et al. does not explicitly teach the feature wherein said personal wireless communication device further comprises a standard, non-directional speaker for sound output, it would have been obvious for one of ordinary skill in the art to take the standard cellular phone with a non-directional speaker and add

the improvement of a directional speaker as taught by Johnson et al. in the same reference (col. 29, lines 19-35). Combining the two features would have yielded predictable results.

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of Meyer et al. (US Pat. No. 5,588,041).

Regarding claim 3, Johnson et al. teaches a personal wireless communication device as recited in claim 2. Although Johnson et al. does not explicitly teach the feature wherein said personal wireless communication device further comprises a controller that controls which speaker or speakers to be used for the sound output, it would have been obvious for one of ordinary skill in the art to implement and modify the handset sensing device of Meyer et al. (col. 7, line 64-col. 8, line 4; Fig. 2, 317). The result of using a switch for toggling speakerphone and handset use would have yielded predictable results when implemented as a switch toggling between a directional speaker and a non-directional speaker since both configurations are switches toggling between two different types of speakers.

Regarding claim 4, Johnson et al. in view of Meyer et al. teaches a personal wireless communication device as recited in claim 3, wherein said personal wireless communication device further comprises at least one sensor, and wherein said controller automatically controls which speaker or speakers to be used for sound output based on information provided by at least said sensor (sensing device 317 or keypad key, col. 7, line 64-col. 8, line 8).

Regarding claim 5, Johnson et al. teaches a personal wireless communication device as recited in claim 1, wherein said personal wireless communication device is a hand-held communication device. Although Johnson et al. does not explicitly teach that the cellular phone is handheld, Meyer et al. teaches a handset (handset 127, col. 7, lines 59-63) and it would have been obvious to one of ordinary skill in the art to implement the device of Johnson et al. with the handset of Meyer et al.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of Norris (US Pat. No. 6,151,398).

Regarding claim 9, Johnson et al teaches a personal wireless communication device as recited in claim 8. Although Johnson et al. does not explicitly wherein said ultrasonic speaker is selected from a group including a piezoelectric thin film device, a bimorph device and a magnetic transducer, Norris teaches that it is well known in the art to use a bimorph device for ultrasonic transducers (Norris, col. 2, lines 17-20), therefore it would have been an obvious design choice to one of ordinary skill in the art to use a bimorph device for the ultrasonic transducers of Johnson et al.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of American Technology Corporation Technology Licensing webpage (hereinafter as American Technology Corp.).

Regarding claim 10, Johnson et al. teaches a personal wireless communication device as recited in claim 8, wherein said ultrasonic speaker produces a sound output;

and wherein the sound output by said ultrasonic speaker is an ultrasonic sound output. Although Johnson et al. does not explicitly teach that the ultrasonic sound output results in audio sound for a user of said personal wireless communication device after the ultrasonic sound output is transformed in air, American Technology Corp. teaches an ultrasonic wave that is converted into audio after it is transformed in air (American Technology Corp., [2]) and it would have been obvious to use such waves in the hypersonic sound system of Johnson et al. since doing so involves using known methods to yield predictable results.

Regarding claim 11, Johnson et al. in view of American Technology Corp. teaches a personal wireless communication device as recited in claim 10, wherein said ultrasonic speaker directs the ultrasonic sound output to the user by confining said output substantially within a virtual cone having an input end at said ultrasonic speaker and an output end at the vicinity of the user (Johnson et al. teaches a directional microphone with a 15 degree cone angle and also discloses that directional speakers or a hypersonic sound system can be used in a similar manner, Johnson et al., col. 29, lines 26-35). American Technology Corp teaches a virtual column of sound that can be aimed at a user and it would have been obvious to one of ordinary skill in the art to use the virtual column of sound method of American Technology Corp. with the cone configuration of Johnson et al. with the motivation of providing a directed sound path.

Regarding claim 12, Johnson et al. in view of American Technology Corp. teaches a personal wireless communication device as recited in claim 11. Although Johnson et al. in view of American Technology Corp. does not explicitly teach the

feature wherein the diameter of the virtual cone at the output end is less than 6 inches, it would have been an obvious design choice to one of ordinary skill in the art with the motivation of providing a more directed sound path when there is no unexpected result in restricting the output end of the virtual cone to less than 6 inches.

Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juntunen et al. (US Pat. No. 6,163,711) in view of Takahashi et al. (US Pat. No. 6,643,377 B1).

Regarding claim 13, Juntunen et al. teaches a peripheral apparatus for an electronic device, said peripheral apparatus comprising: a speaker (Fig. 5, part 31), and wherein the electronic device is a personal wireless communication device (mobile phone, Fig. 5, part 1, col. 6, lines 55-59), and said peripheral apparatus is configured to be removeably connected to the personal wireless communication system (the speaker can be removed from the mobile phone via audio output plug 34 and jack 35, Fig. 5, col. 6, lines 59-64).

Although Juntunen et al. does not explicitly teach that the speaker is a directional speaker that provides ultrasonic sound output in a particular direction to create audio output in a particular direction for a user of the electronic device, it would have been obvious for one of ordinary skill in the art to use directional speakers outputting ultrasonic signals as disclosed by Takahashi et al. (an ultrasonic speaker emitting a highly directional ultrasonic wave, Takahashi et al., col. 3, lines 44-45) since making a

speaker into a directional speaker was well known and using ultrasonic signals in directional speakers is a known technique with predictable results.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juntunen et al. in view of Takahashi et al. in view of Brain (How Stuff Works- USB, Oct. 11, 2002).

Regarding claim 14, Juntunen et al. in view of Takahashi et al. teaches a peripheral apparatus as recited in claim 13, wherein the electronic device has a peripheral connection port, and wherein said peripheral apparatus connects to the electronic device at the peripheral connection port (the speaker can be connected and removed from the mobile phone via audio output plug 34 and jack 35, Juntunen et al., Fig. 5, col. 6, lines 59-64).

Although Junutunen et al. in view of Takahashi et al. does not explicitly disclose the feature wherein the peripheral connection port is an electronic card slot or a serial bus port, it would have been obvious for one of ordinary skill in the art to implement the peripheral connection port of Juntunen et al. in view of Takahashi et al. as a serial bus port because serial bus ports were well known in the art as disclosed by Brain, [5] and using a serial bus port would have yielded predictable results.

Regarding claim 15, Juntunen et al. in view of Takahashi et al. in further view of Brain teaches a peripheral apparatus as recited in claim 14, wherein said peripheral apparatus further comprises a housing for said peripheral apparatus (housing of speaker 31, shown in Fig. 5).

Although Juntunen et al. in view of Takahashi et al. in further view of Brain does not explicitly teach the feature wherein said peripheral apparatus further comprises a mechanical mechanism that allows said directional speaker to move relative to said housing, thereby allowing repositioning of said directional speaker to direct the sound output towards different directions, it would have been obvious to use the rotating directional ultrasonic wave emitting speakers of Takahashi et al. (speakers 102 and 103 which can rotate, col. 5, lines 16-28) since doing so would have yielded a predictable result in the peripheral apparatus of Juntunen et al. in view of Takahashi et al. in further view of Brain.

Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNelley et al. (US Pat. No. 5,777,665) in view of Takahashi et al.

Regarding claim 16, McNelley et al. teaches a peripheral device (Fig. 14) for a computing device (the display 2 can rest on a computer {Col. 5, line 56-57} and be used with a teleconferencing terminal {i.e. computer; Col. 10, line 45-48}), said peripheral device comprising: a housing (Fig. 14, 2); a directional speaker coupled to said housing (Fig. 14, 55; although not shown in Fig. 14, the speaker 55 can be mounted on the side of the display 2 and the speaker can also be directional {see Col. 8, line 43-45}), and a port connector configured to assist with coupling said peripheral device to the computing device so that said computing device can drive said directional speaker to produce the audio sound (there inherently must be a port connector for the directional speaker to receive the audio signals from the computing device).

Although McNelley does not explicitly teach the feature wherein said directional speaker is configured to provide ultrasonic sound output in a particular direction, wherein the ultrasonic sound output by said directional speaker results in audio sound in the particular direction for a user of said computing device, it would have been obvious for one of ordinary skill in the art to use directional speakers that use ultrasonic signals in order to obtain directionality as disclosed by Takahashi et al. (an ultrasonic speaker emitting a highly directional ultrasonic wave, Takahashi et al., col. 3, lines 44-45) since using ultrasonic signals in directional speakers is a known technique with predictable results.

Regarding claim 17, McNelley et al. in view of Takahashi et al. teaches a peripheral device as recited in claim 16, wherein said directional speaker is integral said housing (McNelley et al., Fig. 14, 55; although not shown in Fig. 14, the speaker 55 can be mounted on the side of the display 2 and the speaker can also be directional {see Col. 8, line 43-45}), and wherein when said peripheral device is operatively connected to said computing device, said computing device directs audio signals to said peripheral device (the teleconferencing terminal or computing device {McNelley et al., col. 10, lines 45-48} must be operatively connected to the speakers in order for the speakers to transmit teleconferencing audio as disclosed, McNelley et al., col. 8, lines 38-47).

Regarding claim 18, McNelley et al. in view of Takahashi et al. teaches a peripheral device as recited In claim 16, wherein said peripheral device further comprises a cable that connects said peripheral device to said computing device via a

connector or plug (there is inherently a connector since the peripheral and computing devices are operatively connected to each other).

Regarding claim 19, McNelley et al. in view of Takahashi et al. teaches a peripheral device as recited in claim 16, wherein said peripheral device further comprises a camera (McNelley et al., as shown in Fig. 14, part 4; col. 2, line 22-25).

Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNelley et al. in view of Takahashi et al. in further view of Brain.

Regarding claim 20, McNelley et al. in view of Takahashi et al. teaches a peripheral device as recited in Claim 16. Although McNelley et al. in view of Takahashi et al. does not explicitly teach the feature wherein said housing is configured as a peripheral bus plug-in card, it would have been obvious for one of ordinary skill in the art to configure the housing with a peripheral bus plug-in card because Brain teaches that computers on the consumer market at the time of the invention generally had one or more Universal Serial Bus (USB) connectors on the back (Brain [1]). Additionally, Brain teaches that peripheral devices made at the time of the invention generally were available in a USB version including video telephones like that of McNelley et al. (Brain [5]). Therefore, it would have been obvious for one of ordinary skill in the art to combine the peripheral device of McNelley et al. in view of Takahashi et al. with a USB plug-in card configuration since this was a combination with predictable results.

Regarding claim 21, McNelley et al. in view of Takahashi et al. teaches a peripheral device as recited in claim 16. Although McNelley et al. in view of Takahashi

et al. does not explicitly teach the feature wherein said port connector is a USB connector, it would have been obvious to one of ordinary skill in the art for the same reasons as given in the rejection to claim 20 above.

Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al. (US Pub. No. 2001/0038698 A1) in view of Johnson et al.

Regarding claim 22, Breed et al. teaches a method for automatically selecting one or more of a plurality of potential speakers associated with an audio output device (the speakers can be controlled to provide different outputs for the speakers based on the occupancy of the seats [0136]), said method comprising: obtaining a piece of information pertaining to the audio output device (the occupancy of the seats being served by entertainment system, the identity of passengers, or the radio station preferences associated with each seat [0136]); determining an appropriate one or more of the potential speakers to output an audio output from the audio output device based on the piece of information (the speakers associated with each seating position can be controlled to provide music from the respective radio station [0136]); and selecting the appropriate one or more of the potential speakers, wherein at least one of the speakers is a directional speaker (the entertainment system selects the appropriate speakers that direct sound toward each individual occupant based on the respective radio station preference of the occupant. The speakers are directional speakers because they can direct sound to individual occupants, a characteristic not found in non-directional speakers [0136])

Although Breed et al. does not explicitly teach the feature wherein at least one of the speakers is a non-directional speaker, and wherein said determining determines whether the appropriate one or more of the potential speakers are to be directional, non-directional or both based on the piece of information, non-directional speakers were well known it would have been obvious for one of ordinary skill in the art to combine a non-directional speaker and a directional speaker, both by Johnson et al. (col. 29, lines 19-35) and provide the ability to switch between directional and non-directional speakers based on the occupancy of the seats and the preferences of the users especially when all of the users prefer to listen to the same audio, the non-directional speaker of Johnson et al. would be activated and when the users prefer to listen to different audio programs, the directional speakers would be activated. Using non-directional and directional speakers together involves using known methods together to yield predictable results.

Regarding claim 23, Breed et al. in view of Johnson et al. teaches a method as recited in claim 22, wherein the piece of information is related to how the audio output device is presently being used (the occupancy of the seats indicates where the entertainment system is being used when listening to the radio [0136]).

Regarding claim 24, Breed et al. in view of Johnson et al. teaches a method as recited in claim 22, wherein the piece of information is related to an orientation of the audio output device (the piece of information {occupancy of the seats} is the factor that determines how the speakers will be automatically oriented [0136]).

Regarding claim 25, Breed et al. in view of Johnson et al. teaches a method as recited in claim 22, wherein the piece of information is related to a distance from the audio output device to a surface (The transducers provide information regarding the locus of the head. The waves reflect off of the head and then the distance from each of the transducers to the head is known based on the time it takes for the signal to travel from the head to each of the transducers. This information reveals the occupancy status of the vehicle used for the audio output. [0145]).

Response to Arguments

Applicant's arguments filed 1/3/2008 have been fully considered but they are not persuasive.

Regarding claim 1, applicant argues that the directional speakers of Johnson et al. do not have anything to do with the cellular phone, however the examiner notes that the directional speakers of Johnson et al. are part of the cellular phone system as well as the directional microphone even though they are not explicitly disclosed as a physically integral part of a cellular phone handset. Johnson et al. discloses that the directional speakers will improve the telephone system performance (col. 29, lines 33-35), indicating that the directional speakers are related with the cellular phone. The device (a cellular or mobile phone with directional speakers and a microphone) taught by Johnson et al. meets the limitations of the personal wireless communication device of applicant's claim 1.

Regarding claim 2, applicant argues that there is nothing in Johnson et al. that would motivate the inclusion of a directional as well as a non-directional speaker, however it is general knowledge in the art that a directional speaker and a non-directional speaker each have different advantages (directional speakers provide more privacy, non-directional speakers allow all users to participate) and it would have been obvious to one of ordinary skill in the art to include both types of speakers for the different advantages each provides since doing so would have yielded predictable results.

Regarding claim 3, applicant argues that nothing in Johnson et al. or Meyer et al. suggests switching between a directional speaker and a non-directional speaker, however the examiner notes that hands-free speaker phone mode and handset mode have the same privacy attributes as non-directional speaker mode and directional speaker mode respectively (the hands-free speaker phone mode and the non-directional speaker providing no privacy and the non-directional speaker and handset mode providing privacy). It also would have been obvious to one of ordinary skill in the art to provide a means to switch between the directional speaker and non-directional speaker because the directional speaker would not exhibit its intended usefulness if used simultaneously with a non-directional speaker and this would have been readily apparent to one of ordinary skill in the art.

Regarding claim 4, applicant argues that the sensing devices are not part of a cellular speakerphone; however the examiner notes that the cell phone of Meyer et al. is shown in Figure 1. Said cell phone includes the sensing devices as shown.

Regarding claim 5, Johnson et al. teaches that directional speakers could be used in a speaker phone configuration of a cellular phone in a vehicle. It would have been obvious to one of ordinary skill to apply the handset feature of the cellular phone of Meyer et al. with the cellular phone of Johnson et al. since doing so would have yielded predictable results.

Applicant's arguments with respect to claims 13-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kile O. Blair whose telephone number is (571) 270-3544. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2615

